

Terrestrial Vertebrates Associated With Late-Successional and Old-Growth Forests in  
National Forests Within the Range of the Northern Spotted Owl ( "Long List")

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## **Appendix 5-A**

### **Terrestrial Vertebrates ("Long List")**

#### **Key**

This list consists of species of amphibians, reptiles, birds, and mammals that constitute the "long list". The objective was to include all old-growth/mature associated species within the range of the northern spotted owl. A species was put on the list if any of the references indicated use of mature or old-growth (late-successional) forest habitat or features (down logs or large snags). The species on this list may not be dependent or closely associated with mature or old-growth forests or their components but may merely be reported to use one of these habitats. Nine references were used to identify species for this long list (listed here in order of appearance in the table):

RP = USDI (1992)

UF - Ruggiero et al. (1991)

SVO = Marshall (1992)

LSO = Marcot et al. (in prep.)

PS = Rodrick and Milner (1991)

KP = Foster (1992) and Macfarlane et al. (1991)

OFW = Marshall (1991)

WOW = Brown (1985)

CWH = California Department of Fish and Game (see description below)

To clarify how the selection of species was done, the following about the references should be noted:

Species from Brown (1985; coded as WOW) were included if they were denoted as primary or secondary user of large sawtimber or old-growth forest age classes in evergreen hardwood, conifer hardwood, mixed coniferous, temperate, high temperate, subalpine park or lodgepole pine forests. The latter three types were included because they are considered dispersal habitat for the spotted owl.

Species from California Department of Fish and Game's Habitat Relationship System (1989 version; coded as CWH) were sorted for those species associated with mixed conifer or Douglas-fir forest types, medium or large tree forest age classes, and moderate (40-59 percent) or dense (60-100 percent) crown closure classes.

Species from Ruggiero et al. (1991:456-462; coded as UF) were included if they were denoted as present (P), associated (+), or closely associated (\*) with the mature old-growth age classes.

Species from the Draft Recovery Plan for the Northern Spotted Owl (USDI 1992:341,343,346; coded as RP) were included as listed in their Table D.1 (birds), Table D.2 (mammals), or Table D.3 (amphibians and reptiles).

## **Appendix 5-A**

### **Terrestrial Vertebrates ("Long List")**

#### **Key (continued)**

For the remaining references, the narratives for each species were reviewed. If association with late-successional forest habitats or features were indicated, the species were included on the list.

Other codes used in the column headings:

USFWS = USDI Fish and Wildlife Service

WA = Washington

OR = Oregon

CA = California

OG = old-growth forest

Endemic - degree of endemism in the Pacific Northwest; Loc - locally  
endemic, Broa = broadly distributed throughout the Pacific Northwest within the range  
of the northern spotted owl

Columns labeled A through I = see text, Table 5-1, for factors for identifying  
species closely associated with old-growth forests

Columns labeled 1 through 4"= see text, Table 5-1, for criteria for identifying  
species closely associated with old-growth forests

Conclusion = indicated if a species is included in the "short list" of species  
closely associated with old-growth forests

Appendix 5-A  
Terrestrial Vertebrates ("Long List") - Amphibians

Species	References									
	RP	UP	SVG	LSO	PS	KP	QFW	WO	CWH	

Amphibians										
Oregon Slender salamander	x	x	x	x				x	x	
Larch Mt. salamander	x		x		x			x	x	
Siskiyou Mt. salamander	x		x					x	x	x
Del Norte salamander	x	x	x	x				x	x	x
Van Dyke's salamander	x				x			x		
Mount Lyell salamander										x
Dunn's salamander	x	x		x	x				x	
Western red-backed salamander	x	x							x	
Black salamander	x	x	x						x	x
California slender salamander		x	x	x					x	
Clouded salamander	x	x	x	x				x		x
Arboreal salamander										x
Ensatina	x	x		x					x	
Pacific giant salamander	x	x		x					x	x
Copps' giant salamander	x	x	x	x				x		
Olympic salamander	x	x	x	x				x	x	x
Northwestern salamander	x	x		x					x	x
Shasta salamander	x									x
Red bellied newt										x
Roughskin newt		x		x					x	x
Pacific treefrog		x							x	x
Tailed frog	x	x	x	x				x	x	x
Cascades frog	x		x						x	
Red legged frog	x	x	x							
Western spotted frog	x		x		x					
Footfall yellow-legged frog	x	x	x							
Western Toad	x									x
Northern leopard frog										

Information from USFWS Draft Recovery Plan (Anthony et al.)										
USFWS listing status	State listing			OG assoc.			Endemic		OG assoc.	
	WA	OH	CA	WA	OR	CA	Let	Bros	Reference	

		SC			+		X			Ruggiero et al. 1991
C2	C	SC			*		X			Beatty et al. 1991
C2		SC	T				X			Beatty et al. 1991
C2		SC	SC			*	X			Ruggiero et al. 1991
C3	C				+		X			Beatty 1991 pers. comm.
	C				+	?	X			Ruggiero et al. 1991
							X			Ruggiero et al. 1991
		SC						X		Ruggiero et al. 1991
		SC			+	+	X			Ruggiero et al. 1991
						+				Ruggiero et al. 1991
					+	+	*	X		Raphael 1988
					+	?	X			Ruggiero et al. 1991
	SC	SC	SC	+	*	*	X			Ruggiero et al. 1991
					*	+	?	X		Ruggiero et al. 1991
C2			T				X			Beatty et al. 1991
					*					Ruggiero et al. 1991
		SC	SC	SC	+	+	*		X	Ruggiero et al. 1991
C2		SC	SC				X			Beatty et al. 1991
C2		SC	SC			?		X		Ruggiero et al. 1991
C2	C	SC							X	Beatty et al. 1991
C2		SC	SC		?			X		Ruggiero et al. 1991
										Beatty 1991 pers. comm.

**Appendic 5-A**  
**Terrestrial Vertebrates ("Long List") - Amphibians (continued)**

Species	More abundant in OG forest		Assoc w/ OG forest	Requires OG elements	Species lists				Inadeq. field data
	field data	SAT judgment			Federal USFWS T&E	Federal USFWS Candidat	USFS sensitive species	State list	
A	B	C	D	E	F	G	H	I	

<b>Amphibians</b>									
Oregon Slender salamander			X	X				X	
Larch Mt. salamander	X					X	R6	X	
Siskiyou Mt. salamander			X	X		X	R6	X	
Del Norte salamander	X		X	X		X	R6	X	
Van Dyke's salamander			X	X		X		X	
Mount Lyell salamander									
Dunn's salamander			X	X				X	
Western red-backed salamander	*								
Black salamander		X						X	
California slender salamander			X	X					
Clouded salamander	.		X	X				X	
Arboreal salamander				X					X
Ensatina			X						
Pacific giant salamander	X	X?	X						
Cope's giant salamander		X?	X				R6		X
Olympic salamander	X							X	
Northwestern salamander	X								
Shasta salamander		X?				X		X	X?
Red-bellied newt									
Roughskin newt	X		X						
Pacific treefrog									
Tailed frog	X							X	
Cascades frog						X		X	
Red-legged frog						X	R6	X	
Western spotted frog						X		X	
Foothill yellow-legged frog						X		X	
Western Toad									
Northern leopard frog									

# Appendix 5-A

## Terrestrial Vertebrates ("Long List") - Amphibians (continued)

Species	Criteria for assigning species to old-growth associated list				Conclusion On old-growth associated list? *	Comments
	1	2	3	4		
<b>Amphibians</b>						
Oregon Slender salamander		x			YES	uses down logs
Larch Mt. salamander	x		x		YES	also protected in forest plans
Siskiyou Mt. salamander		x			YES	threatened in Calif.
Del Norte salamander	x	x	x		YES	
Van Dyke's salamander		x			YES	uses down logs
Mount Lyell salamander					no	
Dunn's salamander		x			YES	not known if late seral required
Western red-backed salamander					no	
Black salamander	x				YES	
California slender salamander		x			YES	
Clouded salamander		x			YES	
Arboreal salamander					no	widespread; & wide variety of habitat conditions
Ensatina					no	ubiq.; uses small down wood
Pacific giant salamander	x				YES	Gomez 1992, Raphael 1999
Cope's giant salamander	x				YES	assumes similar ecology as w/ Pac. Giant Sal
Olympic salamander	x		x		YES	
Northwestern salamander	x				YES	
Shasta salamander	x				YES	
Red-bellied newt					no	
Roughskin newt	x				YES	
Pacific treefrog					no	
Tailed frog	x		x		YES	
Cascades frog					no	
Red-legged frog					no	
Western spotted frog					no	
Foothill yellow-legged frog					no	
Western Toad					no	
Northern leopard frog					no	

\* "old-growth associated list" = "short list" (see Appendix 5-D)

### Terrestrial Vertebrates ("Long List") - Reptiles

7500-28	480-2-108	SV	LS	PS	JO	GF	WO	CW
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[illegible][illegible][illegible]

Species	More abundant in continent		Assoc. with forest	Requires exotics	Species sets			Invasive herb data	
	SAT data	SAT judgments			Federal USFWS TSE	Federal USFWS Candidate	USFS sensitive species		State list
	A	B	C	D	E	F	G	H	I

[illegible]

# Appendix 5-A

## Terrestrial Vertebrates ("Long List") - Reptiles (continued)

Species	Criteria for assigning species to old-growth associated list				Conclusion: On old-growth associated list? *	Comments
	1	2	3	4		

<b>Reptiles</b>						
Western pond turtle					no	
Sharp-tailed snake					no	
Rubber boa					no	
Gopher snake					no	
Western aquatic garter snake					no	
Western terrestrial garter snake					no	
Common garter snake					no	
Western rattlesnake					no	
Northern alligator lizard					no	
Western fence lizard					no	

\* "old-growth associated list" = "short list" (see Appendix 5-D)



## Terrestrial Vertebrates ("Long List") - Birds Part 1

Species	References							
	ALL	UF	SVC	LSU	PS	KP	DFW	WO

## BIRDS

Martlet munlet		X	X	X	X	X	X	X	X	X
Great blue heron									X	X
Barrow's goldeneye				X		X		X	X	X
Butterhead			X					X	X	X
Wood duck						X			X	X
Hooded merganser						X			X	X
Common merganser										X
Harlequin duck		X			X	X				
Blue grouse					X	X	X			
Spruce grouse									X	X
Ruffed grouse									X	X
Mountain quail		X			X					X
California quail		X								X
Winnem's turkey										
Wild turkey						X				
Mourning dove									X	X
Band-tailed pigeon				X					X	X
Northern goshawk		X			X	X	X	X	X	X
Sharp-shinned hawk									X	X
Cooper's hawk									X	X
Hooded hawk									X	X
Golden eagle									X	X
American kestrel										X
Martin										
Paragrine falcon										X
Prairie falcon										X
Blad eagle		X				X	X	X		X
Osprey							X			X
Turkey vulture									X	X
Barred owl				X						X
Northern pygmy owl		X	X	X					X	X

Information from US <sup>1</sup> WS Draft Recovery Plan (Anthony et al.)									
US <sup>1</sup> WS listing status	State listing			OG assoc			Friequent		OG assoc
	WA	OR	CA	WA	OR	CA	Loc	Bios	Reference

T	C	S/C	=	*	*		Ruggiero et al. 1991
C2				+	I	?	Ruggiero et al. 1991
				I	P	?	Ruggiero et al. 1991
C2				?	P	P	Ruggiero et al. 1991
				P	P	?	Ruggiero et al. 1991
C2	C	S/C	SC	+	+	I	Hayward et al. 1990
E	E	E	?				
T	T	I	E	*	*	*	Anthony et al. 1987
				P	?	?	Ruggiero et al. 1991
				P	+	?	Ruggiero et al. 1991

## Appendix 5-A

### Terrestrial Vertebrates ("Long List") - Birds Part 1 (continued)

Species									
	More abundant in OG forest			Requires OG elements	Species lists				Inadeq. field data
	field data	SAT judgment	Assoc w/ OG forest		Federal USFWS T&E	Federal USFWS Candidat	USFS sensitive species	State list	
					A	B	C	D	

## BIRDS

Marbled murrelet	x		x	x	x		R6	x	x
Great blue heron									
Barrow's goldeneye			x	x					
Bufflehead			x	x					
Wood duck			x	x					
Hooded merganser			x	x					
Common merganser			x	x					
Harlequin duck			x	x		x	R6		
Blue grouse								x	
Spruce grouse									
Ruffed grouse								x	
Mountain quail						x			
California quail									
Merlam's turkey									
Wild turkey									
Mourning dove									
Band-tailed pigeon									
Northern goshawk		x				x		x	
Sharp-shinned hawk									
Cooper's hawk									
Red-tailed hawk									
Golden eagle									
American kestrel									
Merlin									
Peregrine falcon					x		R6	x	
Prairie falcon									
Bald eagle	x	x			x		R6	x	x
Osprey				x					
Turkey vulture									
Barred owl			x	x					
Northern pygmy owl			x	x?					

Appendix 5-A  
Terrestrial Vertebrates ("Long List") - Birds Part 1 (continued)

Species	Criteria for assigning species to old-growth associated list				Conclusion: On old-growth associated list? *	Comments
	1	2	3	4		
<b>BIRDS</b>						
Marbled murrelet	x	x	x	x	YES	recently listed as Threatened
Great blue heron					no	
Barrow's goldeneye		x			YES	riparian management for snags
Bufflehead		x			YES	riparian management for snags
Wood duck		x			YES	riparian management for snags
Hooded merganser		x			YES	riparian management for snags
Common merganser		x			YES	riparian management for snags
Harlequin duck		x			YES	riparian management for snags
Blue grouse					no	
Spruce grouse					no	
Ruffed grouse					no	
Mountain quail					no	
California quail					no	
Merriam's turkey					no	
Wild turkey					no	
Mourning dove					no	
Band-tailed pigeon					no	
Northern goshawk	x				YES	Reynolds references; OG associated on Olymp. Pen.
Sharp-shinned hawk					no	
Cooper's hawk					no	
Red-tailed hawk					no	
Golden eagle					no	
American kestrel					no	
Martin					no	
Peregrine falcon					no	
Prairie falcon					no	
Bald eagle	x		x	x	YES	
Osprey					no	snags, esp. along lakes, rivers
Turkey vulture					no	
Barred owl		x			YES	Brown lists elements incl. snags
Northern pygmy owl		x			YES	check factor D?; Brown lists snags

\* "old-growth associated list" = "short list" (see Appendix 5-D)

## Vertebrates (“Long List”) - Birds Part 2

[illegible]

	References							
Rp	UF	SVO	LSO	PS	KP	OFW	WO	CWH
d owl	x	x		x	x	x	x	x
i	x	x	x	x		x		x
n owl	x	x			x	x		x
wl							x	x
net owl					/		x	x
hawk							x	x
bird		x	x					x
ybird							x	
gbird	x		x				x	x
swift	x	x	x	x	x	x	x	x
							x	x
ow							x	x
r							x	
ecker	x	x	x	x		x	x	x
cker	x							x
ker	x		x				x	x
oodpecker	x	x		x		x	x	x
oodpecker	x	x		x		x	x	
cker		x				x		
ker	x	x	x			x	x	x
rdpecker	x					x		
ecker								x
	x		x				x	x
	x		x	x			x	x
	x		x	x			x	x
ker (1)								x
apsucker	x	x	x				x	x
sucker		x				x	x	x



Appendix 5-A  
Terrestrial Vertebrates ("Long List") - Birds Part 2 (Continued)

Species	More abundant in OG forest		Assoc w/ OG forest	Requires OG elements	Species lists				Inadeq field data
	field data	SAT judgment			Federal USFWS T&E	Federal USFWS Candidat	USFS sensitive species	State list	
	A	B	C	D	E	F	G	H	I
Northern spotted owl	x				x		R6	x	
Flammulated owl			x	x					
Great gray owl			x	x					
Western screech owl									
Great horned owl									
Long-eared owl									
Northern saw-whet owl									
Common nighthawk			/						
Whip-poor-will									
Allen's hummingbird									
Calliope hummingbird									
Rufous hummingbird								x	
White-throated swift									
Vaux's swift	x			x				x	
Black swift									
Tree swallow				x					
Violet-green swallow									
Belted kingfisher								x	
Pileated woodpecker			x	x					
Downy woodpecker				x					
Hairy woodpecker	x			x				x	
White-headed woodpecker			x	x				x	
Black-backed woodpecker			x	x					
Acorn woodpecker				x					
Lewis woodpecker				x					
Three-toed woodpecker			x	x					
Nuttall's woodpecker				x					
Common raven									
Gray jay									
Steller's jay									
Clark's nutcracker (1)									
Red-breasted sapsucker		x		x					
Williamson's sapsucker			x	x					

Appendix 5-A  
Terrestrial Vertebrates ("Long List") - Birds Part 2 (continued)

Species	Criteria for assigning species to old-growth associated list				Conclusion: On old-growth associated list? *	Comments
	1	2	3	4		
Northern spotted owl	x		x		YES	
Flammulated owl		x			YES	occurs in NSO range only in nw CA? Goggans 1986
Great gray owl		x			YES	E. Bull references
Western screech owl					no	
Great horned owl					no	
Long-eared owl					no	
Northern saw-whet owl					no	
Common nighthawk					no	
Whip-poor-will					no	
Allen's hummingbird					no	
Calliope hummingbird					no	
Rufous hummingbird					no	
White-throated swift					no	
Vaux's swift	x		x		YES	closely assoc. w/ OG; WA candidate
Black swift					no	
Tree swallow					no	
Violet-green swallow					no	
Belted kingfisher					no	
Pileated woodpecker		x			YES	
Downy woodpecker					no	uses small snags
Hairy woodpecker	x		x		YES	closely assoc. w/ OG in no. CA (Raphael 1988)
White-headed woodpecker		x			YES	uses large snags; Bull reference
Black-backed woodpecker		x			YES	uses large snags; Goggans et al. 1987
Acorn woodpecker					no	assoc. w/ oak woodlands, hardwood components
Lewis woodpecker					no	
Three-toed woodpecker		x			YES	Brown lists as using snags; Goggans et al. 1987
Nuttall's woodpecker					no	
Common raven					no	
Gray jay					no	
Steller's jay					no	
Clark's nutcracker (1)					no	
Red-breasted sapsucker	x				YES	
Williamson's sapsucker		x			YES	

\* "old-growth associated list" = "short list" (see Appendix 5-D)

Appendix 5-A  
Terrestrial Vertebrates ("Long List") - Birds Part 3

Species	References							
	RP	UP	SVO	LSO	PS	KP	ORW	WO
Northern flicker		X		X				X
Dusky/hammond's flycatcher		X		X				X
Western flycatcher	X	X		X				X
Olive-sided flycatcher		X		X				X
Hammond's flycatcher	X	X						X
Willow flycatcher	X			X				X
Western wood peewee		X						X
Black-capped chickadee		X						X
Chestnut-backed chickadee	X	X		X				X
Mountain chickadee								X
Brown creeper	X	X		X				X
Red-breasted nuthatch	X	X		X				X
White-breasted nuthatch		X						X
Pygmy nuthatch			X				X	X
Winter wren	X	X		X				X
House wren		X						X
Western bluebird								X
Mountain bluebird								X
Golden-crowned kinglet		X						X
Ruby-crowned kinglet		X						X
American robin		X		X				X
Hermit thrush	X	X		X				X
Swainson's thrush		X		X				X
Townsend's solitaire		X						X
Varied thrush		X		X				X
Wrenlet		X		X				X
Cedar waxwing								X
Brewer's blackbird								X
Hermit/Townsend's warbler		X						X
MacGillivray's warbler		X						X
Black-throated gray warbler		X						X
Nashville warbler		X						X
Hermit warbler		(X)						(X)

Information from USFWS Draft Recovery Plan (Anthony et al.)										
USFWS	State listing			OG assoc.			Endemic		OG assoc.	
listing status	WA	OR	CA	WA	OR	CA	Loc	Bras	Reference	
				P	+	P			Ruggiero et al. 1991	
					+				Ruggiero et al. 1991	
				P	*	+			Ruggiero et al. 1991	
									Ruggiero et al. 1991	
				P	P	*			X	
									(see comments)	
				P	P	P			Ruggiero et al. 1991	
				?	P				X	
				+	+	+			Ruggiero et al. 1991	
				+	*	*			Ruggiero et al. 1991	
				+	?	?			Ruggiero et al. 1991	
				?	P	?			Ruggiero et al. 1991	
				+	+	+			Ruggiero et al. 1991	
				+	+	+			Ruggiero et al. 1991	
				?	P	?			Ruggiero et al. 1991	
				P	P	P			Ruggiero et al. 1991	
				?	P	?			Ruggiero et al. 1991	
				P	+	+			Ruggiero et al. 1991	
				P	P	+			Rugg. et al. 91, Raphael 1995	
				+	P	?			Rugg. et al. 91	
	C	S(C)		+	+	+			Goppans 1995	
			E	+	+	P			Ruggiero et al. 1991	
				P	P	+			Ruggiero et al. 1991	
				P	P				Ruggiero et al. 1991	
				P	P	?			Ruggiero et al. 1991	
				P	P	P			Ruggiero et al. 1991	
				?	P	P			Ruggiero et al. 1991	
				?	P	+			Ruggiero et al. 1991	

# Appendix 5-A

## Terrestrial Vertebrates ("Long List") - Birds Part 3 (continued)

Species	More abundant in 100 forest		Assoc w/ 100 forest	Requires 100 elements	Species lists				Inadeq. field data
	field data	SAT judgment			Federal USFWS T&E	Federal USFWS Candidat	USFS sensitive species	State list	
	A	B	C	D	E	F	G	H	I
Northern flicker			x	x					
Dusky/Hammond's flycatcher									
Western flycatcher	x								
Olive-sided flycatcher									
Hammond's flycatcher	x								
Willow flycatcher									
Western wood-peewee									
Black-capped chickadee									
Chestnut-backed chickadee		x							
Mountain chickadee	.								
Brown creeper	x			x					
Red-breasted nuthatch			x	x					
White breasted nuthatch	.		x	x					
Pygmy nuthatch			x	x					
Winter wren		x							
House wren									
Western bluebird									
Mountain bluebird									
Golden-crowned kinglet		x							
Ruby-crowned kinglet									
American robin									
Hermit thrush		x							
Swainson's thrush									
Townsend's solitaire								x	
Varied thrush		x						x	
Wrentit									
Cedar waxwing									
Brewer's blackbird									
Hermit/Townsend's warbler		x							
MacGillivray's warbler									
Black-throated gray warbler									
Nashville warbler									
Hermit warbler									



# Appendix 5-A

## Terrestrial Vertebrates ("Long List") - Birds Part 4

Species	References									
	RP	UF	SVO	LSO	PS	IG	OPW	WO	CWH	
Orange-crowned warbler		x						x	x	
Townsend's warbler		x						(x)	x	
Yellow warbler									x	
Wilson's warbler	x	x		x				x		
Yellow-rumped warbler		x						x	x	
Hutton's vireo		x							x	
Solitary vireo		x		x				x	x	
Warbling vireo	x	x						x	x	
Western tanager		x		x				x	x	
Chipping sparrow		x								
Dark-eyed junco		x						x		
Rufous-sided towhee		x								
Song sparrow		x								
Black-headed grosbeak		x		x					x	
Evening grosbeak		x						x	x	
Pine grosbeak								x		
Pine siskin		x		x				x	x	
Purple finch		x						x	x	
Cassin's finch									x	
Red crossbill		x		x				x	x	
White-winged crossbill								x		
Common redpoll								x		

Information from USFWS Draft Recovery Plan (Anthony et al.)										
USFWS listing status	State listing			OG assoc.			Endemic		OG assoc.	
	WA	OR	CA	WA	OR	CA	Loc	Area	Reference	
				?	P	P			Ruggiero et al. 1991	
				?	P	?			Ruggiero et al. 1991	
				+	P	*			Ruggiero et al. 1991, Raphael 1985 (CA)	
				P	P	P			Ruggiero et al. 1991	
				P	P	P			Ruggiero et al. 1991	
				P	+	+			Ruggiero et al. 1991	
				P	P	P			Ruggiero et al. 1991	
				P	P	+			Ruggiero et al. 1991	
				?	P	?			Ruggiero et al. 1991	
				P	P	P			Ruggiero et al. 1991	
				?	P	P			Ruggiero et al. 1991	
				P	P	?			Ruggiero et al. 1991	
				P	+	+			Ruggiero et al. 1991	
				P	P	P			Ruggiero et al. 1991	
				P	P	P			Ruggiero et al. 1991	
				P	P	P			Ruggiero et al. 1991	
				P	P	P			Ruggiero et al. 1991	
				+	+	P			Ruggiero et al. 1991	

## Appendix 5-A

## Terrestrial Vertebrates ("Long List") - Birds Part 3 (continued)

Species	Criteria for assigning species to old-growth associated list				Conclusion: On old-growth associated list? *	Comments
	1	2	3	4		
Northern flicker		x			YES	assoc. w/ open forests, but uses lg snags
Dusky/hammond's flycatcher					no	
Western flycatcher	x				YES	assoc. w/ OG in no. Cal. (Raphael 1988)
Olive-sided flycatcher					no	
Hammond's flycatcher	x				YES	Ruggiero et al. 1991; Saks & Noon 1991 (CA)
Willow flycatcher					no	
Western wood-pewee					no	
Black-capped chickadee					no	
Chestnut-backed chickadee	x				YES	assoc. w/ OG in no. Cal. (Raphael 1988)
Mountain chickadee					no	
Brown creeper	x				YES	assoc. w/ OG in no. Cal. (Ruggiero et al. 1991)
Red-breasted nuthatch		x			YES	uses smaller snags; Brown lists in mature & OG
White breasted nuthatch		x			YES	uses smaller snags; Brown lists in mature & OG
Pygmy nuthatch		x			YES	uses smaller snags; Brown lists in mature & OG
Winter wren	x				YES	assoc. w/ OG in no. Cal. (Raphael 1988)
House wren					no	
Western bluebird					no	
Mountain bluebird					no	
Golden-crowned kinglet	x				YES	assoc. w/ OG in no. Cal. (Raphael 1988)
Ruby-crowned kinglet					no	
American robin					no	
Hermit thrush	x				YES	assoc. w/ OG in no. Cal. (Raphael 1988)
Swanson's thrush					no	
Townsend's solitaire					no	
Varied thrush	x				YES	assoc. w/ OG in no. Cal. in winter
Wrentit					no	
Cedar waxwing					no	
Brewer's blackbird					no	
Hermit/Townsend's warbler	x				YES	see individual species ratings
MacGillivray's warbler					no	
Black-throated gray warbler					no	
Nashville warbler					no	
Hermit warbler					no	

\* "old-growth associated list" = "short list" (see Appendix 5-D)

Appendix 5-A  
Terrestrial Vertebrates ("Long List") - Birds Part 4 (continued)

Species	More abundant in 00 forest		Assoc w/ 00 forest	Requires 00 elements	Species lists				Inadeq field data
	field data	SAT judgment			Federal USFWS T&E	Federal USFWS Candidat	USFS sensitive species	State list	
	A	B	C	D	E	F	G	H	I
Orange-crowned warbler									
Townsend's warbler		x	x						
Yellow warbler									
Wilson's warbler	x								
Yellow-rumped warbler									
Hutton's vireo									
Solitary vireo									
Warbling vireo		x							
Western tanager									
Chipping sparrow									
Dark-eyed junco									
Rufous-sided towhee									
Song sparrow									
Black-headed grosbeak									
Evening grosbeak									
Pine grosbeak									
Pine siskin									
Purple finch									
Cassin's finch									
Red crossbill			x	x					
White-winged crossbill									
Common redpoll									

# Appendix 5-A

## Terrestrial Vertebrates ("Long List") - Birds Part 4 (continued)

Species	Criteria for assigning species to old-growth associated list				Conclusion: On old-growth associated list? *	Comments
	1	2	3	4		
Orange-crowned warbler					no	
Townsend's warbler	x				YES	mature (Brown '85, Marcot '85), OG (Brown '85)
Yellow warbler					no	
Wilson's warbler	x				YES	in OG in no. Cal. (Raphael 1985), but also in yng grth
Yellow-rumped warbler					no	
Hutton's vireo			/		no	
Solitary vireo					no	
Warbling vireo	x				YES	assoc. w/ OG in no. Cal. (Raphael 1988)
Western tanager					no	
Chipping sparrow					no	
Dark-eyed junco					no	
Rufous-sided towhee					no	
Song sparrow					no	
Black-headed grosbeak					no	
Evening grosbeak					no	
Pine grosbeak					no	
Pine siskin					no	
Purple finch					no	
Cassin's finch					no	
Red crossbill		x			YES	large canopy, no fragmentation; species complex
White-winged crossbill					no	
Common redpoll					no	

\* "old-growth associated list" = "short list" (see Appendix 5-D)

## Terrestrial Vertebrates ("Long List") - Mammals Part 1

Species	References									
	RP	UF	SVO	LSO	PS	KP	OFW	WO	CWH	

## MAMMALS

Marten	x		x	x	x	x	x	x	x	x
Ermine		x							x	x
Long-tailed weasel									x	x
Fisher	x	x	x	x	x	x	x	x	x	x
Wolverine	x			x				x	x	
Gray wolf	x			x						
Black bear									x	x
Grizzly bear	x			x					x	
Porcupine									x	x
Mountain beaver										x
Brush rabbit									x	
Raccoon									x	x
Ringtail								x		
Opposum									x	
Dusky-footed woodrat	x								x	x
Bushy-tailed woodrat	x			x					x	x
Northern flying squirrel	x	x		x					x	x
Western gray squirrel					x				x	x
Golden mantled ground squirrel									x	x
Cascade mantled ground squirrel									x	
Siskyou chipmunk									x	x
Yellow pine chipmunk (t)										x
Yellow-cheeked chipmunk										x
Allen's chipmunk										x
California chipmunk										x
Douglas squirrel		x		x					x	x
Townsend's chipmunk		x							x	
Red tree vole (P. longicaudus)	x	x		x					x	x
Red tree vole (P. pomu)	x	x		x					x	x
White-footed vole	x		x	x					x	
Western red backed vole	x	x		x					x	x

[illegible][illegible]

Appendix 5-A  
Terrestrial Vertebrates ("Long List") - Mammals Part 1 (continued)

Species	More abundant in o.g. forest		Assoc w/ o.g. forest	Requires o.g. elements	Species lists				Inadeq. field data
	field data	SAT judgment			Federal USFWS T&E	Federal USFWS Candidat	USFS sensitive species	State list	
	A	B	C	D	E	F	G	H	I

**MAMMALS**

Marten			x	x				x	
Ermine									
Long-tailed weasel									
Fisher			x	x		x		x	
Wolverine						x	R6	x	x
Gray wolf					x		R6	x	
Black bear									
Grizzly bear					x		R6	x	
Porcupine									
Mountain beaver									
Brush rabbit									
Raccoon									
Ringtail									
Opposum									
Dusky-footed woodrat	x		x					x	
Bushy-tailed woodrat									
Northern flying squirrel	x		x	x				x	
Western gray squirrel									
Golden mantled ground squirrel									
Cascade mantled ground squirrel									
Siskiyou chipmunk									
Yellow pine chipmunk (1)									
Yellow cheeked chipmunk									
Allen's chipmunk									
California chipmunk									
Douglas squirrel	x		x	x					
Townsend's chipmunk	x								
Red tree vole (P. longicaudus)	x		x						
Red tree vole (P. pomia)		x	x					x	
White-footed vole						x	R6	x	x
Western red-backed vole	x			x					



Appendix 5-A  
Terrestrial Vertebrates ("Long List") - Mammals Part 1 (continued)

Species	Criteria for assigning species to old-growth associated list				Conclusion: On old-growth associated list? *	Comments
	1	2	3	4		
<b>MAMMALS</b>						
Marten		x			YES	uses snags & down logs for den sites
Ermine					no	assoc. w/ early succ. stages too
Long-tailed weasel					no	assoc. w/ early succ. stages too
Fisher		x			YES	uses snags & down logs for den sites
Wolverine					no	high elev./subalpine associate
Gray wolf					no	
Black bear					no	
Grizzly bear					no	
Porcupine					no	
Mountain beaver					no	most abund. in early growth stages
Brush rabbit					no	
Raccoon					no	
Ringtail					no	
Opossum					no	
Dusky-footed woodrat	x		x		YES	also in early shrub stages; but CQ use > mid-succ.
Bushy-tailed woodrat					no	
Northern flying squirrel	x	x	x		YES	
Western gray squirrel					no	
Golden mantled ground squirrel					no	
Cascade mantled ground squirrel					no	
Siskiyou chipmunk					no	
Yellow pine chipmunk (1)					no	
Yellow-cheeked chipmunk					no	
Allen's chipmunk					no	
California chipmunk					no	
Douglas squirrel	x	x			YES	requires lg conifers w/ seed production
Townsend's chipmunk	x				YES	but also is abundant in early stages
Red tree vole (P. longicaudus)	x				YES	recov plan shows OR only
Red tree vole (P. pomio)	x				YES	recov plan shows CA only
White-footed vole					no	riparian assoc.; not sig. across seral stages (Gomez)
Western red-backed vole	x				YES	

\* "old-growth associated list" = "short list" (see Appendix 5-D)

## Terrestrial Vertebrates ("Long List") - Mammals Part 2

[illegible]

Information from USFWS Draft Recovery Plan (Anthony et al.)										
USFWS		State listing			OG assoc.			Endemic		OG assoc.
listing	status	WA	OR	CA	WA	OR	CA	Loc	Bred	Reference
					P					Ruggiero et al. 1991
					+			X		Ruggiero et al. 1991
					+	+	*			Rug. 91 (WA,OR), Ragh 88 (CA)
							P			Ruggiero et al. 1991
						+				Ruggiero et al. 1991
					P	P	P			Ruggiero et al. 1991
					P	P	P			Ruggiero et al. 1991
						+	*			Rugg. 91 (OR), Ragh 88 (CA)
					P	P	?			Ruggiero et al. 1991
					P	P	?			Ruggiero et al. 1991
					P	+	?			Ruggiero et al. 1991
						*				Ruggiero et al. 1991
					+	*	?			Ruggiero et al. 1991
C?	C	S/C	SC							
	M				*	*	?			Ruggiero et al. 1991
					*	*	?			Ruggiero et al. 1991 (Myotis A complex)
					*	*	?			Ruggiero et al. 1991 (Myotis B complex)
					*	*	?			Ruggiero et al. 1991 (Myotis B complex)
					*	*	?			Ruggiero et al. 1991 (Myotis B complex)
					*	*	?			Ruggiero et al. 1991 (Myotis B complex)
					?	*	?			Ruggiero et al. 1991
					*	*	?			Ruggiero et al. 1991 (Myotis A complex)



# Appendix 5-A

## Terrestrial Vertebrates ("Long List") - Mammals Part 2 (continued)

Species	More abundant in o-o forest		Assoc w/ o-o forest	Requires o-o elements	Species lists				Inadeq. field data
	field data	SAT judgment			Federal USFWS T&E	Federal USFWS Candidat	USFS sensitive species	State list	
Heather vole (1)									
Southern red-backed vole		x		x					x
Forest deer mouse		x?	x						
Deer mouse	x		x						
Western jumping mouse									
Pacific jumping mouse									
Pinyon mouse									
Marsh shrew									
Montane shrew									
Masked shrew			x						
Dusky shrew			x						x
Trowbridge's shrew			x						
Pacific shrew	x		x						
Vagrant shrew									
Coast mole			x						
Shrew-mole		x?	x						x
Big brown bat	x			x					
Silver-haired bat	x			x					
Western (Townsend's) big-eared bat						x	R6	x	
Pallid bat			x						
Hoary bat			x	x					
Brazilian free-tailed bat									
Red bat									
Long-legged myotis	x		x	x				x	
Yuma myotis	x		x	x					
California myotis	x		x	x					
Koen's myotis	x		x	x					
Long-eared myotis	x		x	x					
Western small-footed myotis	x		x	x					
Fringed myotis	x								
Little brown myotis	x		x	x					
Black-tailed deer									
Mule deer									

Appendix 5-A  
Terrestrial Vertebrates ("Long List") - Mammals Part 2 (continued)

Species	Criteria for assigning species to old-growth associated list				Conclusion: On old-growth associated list? *	Comments
	1	2	3	4		
Heather vole (1)					no	
Southern red-backed vole	x				YES	little data available
Forest deer mouse	x				YES	
Deer mouse	x				YES	data show OG, but also very abund. in early seral veg.
Western jumping mouse					no	
Pacific jumping mouse					no	
Pinyon mouse					no	assoc. w/ early seral stages
Marsh shrew					no	strong riparian assoc. (Gomez 92)
Montane shrew					no	
Masked shrew					no	boreal, widespread species
Dusky shrew					no	
Trowbridge's shrew					no	broad assoc. w/ all forest stages
Pacific shrew	x				YES	abund. in young forest (Gomez 92) but taxonomy uncertain
Vagrant shrew					no	low elev. early stage assoc. (Gomez 92) but tax. uncertain
Coast mole					no	fossorial, tied to soil structure
Shrew-mole	x				YES	regional OG analysis shows *** (Aubry)
Big brown bat	x				YES	Christy & West in press; comb. w/ fringed in Rugg. et al. '91
Silver-haired bat	x				YES	Christy & West in press
Western (Townsend's) big-eared bat					no	Christy & West in press
Pallid bat					no	cliffs and caves (Ingles 1967)
Hoary bat		x			YES	Christy & West in press
Brazilian free-tailed bat					no	assoc. w/ caves (Brown 1985)
Red bat					no	
Long-legged myotis	x	x	x		YES	Christy & West in press
Yuma myotis	x	x			YES	part of 'Myotis A' group in Ruggiero et al. 1991
California myotis	x	x			YES	part of 'Myotis B' group in Ruggiero et al. 1991
Keen's myotis	x	x			YES	part of 'Myotis B' group in Ruggiero et al. 1991
Long-eared myotis	x	x			YES	part of 'Myotis B' group in Ruggiero et al. 1991
Western small-footed myotis	x	x			YES	part of 'Myotis B' but NOT OG associated
Fringed myotis	x				YES	? combined w/ big brown bat in Ruggiero et al. 1991
Little brown myotis	x	x			YES	part of 'Myotis A' group in Ruggiero et al. 1991
Black-tailed deer					no	
Mule deer					no	

\* "old-growth associated list" = "short list" (see Appendix 5-D)

### Terrestrial Vertebrates ("Long List") - Mammals Part 3

Species	References									
	RP	UF	SVD	LSO	PS	KP	O/W	WO	C/W	
Elk					X				X	X
Mountain lion									X	X
Lynx					X					

Information from USFWS Draft Recovery Plan (Anthony et al.)									
USFWS listing  status	State listing			QG assoc.			Endemic	OG assoc	
	WA	OR	CA	WA	OR	CA	Lec	Brae	Reference
C2									

Species	More abundant in our forest		Assoc w/ our forest	Requires our elements	Species lists				inadeq. field data
	field data	SAT judgment			Federal/USFWS T&E	Federal/USFWS Candidat	USFS sensitive species	State list	
	A	B	C	D	E	F	G	H	I
Elk			X	X					
Mountain lion									
Lynx			X	X		X	RB		

Species	Criteria for assigning species to old-growth associated list				Conclusion: On old-growth associated list? *	Comments
	1	2	3	4		
Ek		x			YES	OG assoc. on Olympic Peninsula
Mountain lion					no	
Lyre		x			YES	req. old for. cov. & early seral for feeding; Koehler 1997

\* "old-growth associated list" = "short list" (see Appendix 5-D)

## **Appendix 5-A**

### **Terrestrial Vertebrates ("Long List")**

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